

Javier Sendra-Arranz

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Education

- **Bachelor's Degree in Mathematics** (240 credits)
From Sept. 2015 to July 2019.
 - **University:** [Universidad Complutense de Madrid \(UCM\)](#)
 - **B.Sc. thesis:** “The rational normal curves and the Waring problem”. Thesis advisor: Professor Enrique Arrondo.
- **Master in Mathematics** at the Universität Bonn, Germany
From Oct.2019 to Aug. 2021.
 - **University:** [Rheinische Friedrich-Wilhelms-Universität Bonn](#)
 - **M. thesis:** “Gromov Witten Theory of K3 surfaces”. Thesis advisors: **Professor Dr. Georg Oberdieck** and **Dr. Johannes Schmitt**.
- **PhD:** I completed my PhD between the [Max Planck Institute for Mathematics in the Sciences Leipzig](#) and [Tübingen University](#). Advisor: **Prof. Daniele Agostini**. Since Sept. 2021. Expected date of PhD defence: Summer 2024.

Employment

1. PhD student contract at the [Max Planck Institute for Mathematics in the Sciences Leipzig](#) from September 2021 to September 2023
2. PhD student contract at the [Tübingen University](#) from September 2023 to September 2024.
3. Postdoctoral position at CUNEF University from September 2024.

Scholarships

1. [La Caixa Postgraduate Fellowship Abroad](#) for the first two years of my PhD studies at the MPI MIS. From Sept. 2021 to Sept. 2023.
2. [Study Scholarships for Graduates of All Disciplines](#) from the DAAD for the two years Master at the Universität Bonn.
3. One year (Academic course 2018-2019) [scholarship](#) from the Spanish Ministry of Sciences to do research in the [Department of Algebra, Geometry and Topology](#) on *Introduction to Algebraic Geometry*.
4. [Excellence Scholarship for excellent academic achievement](#) corresponding to the academic year 2017-2018.
5. [Excellence Scholarship for excellent academic achievement](#) corresponding to the academic year 2016-2017.
6. [Excellence Scholarship for excellent academic achievement](#) corresponding to the academic year 2015-2016.

Publications and Preprints

- Daniele Agostini, Hannah Markwig, Clemens Nollau, Victoria Schleis, Javier Sendra-Arranz, and Bernd Sturmfels. **Recovery of Plane Curves from Branch Points** (2022). Discrete & Computational Geometry (2023) <https://doi.org/10.1007/s00454-023-00538-5> - arXiv:2205.11287
- Irem Portakal and Javier Sendra-Arranz. **Nash Conditional Independence Curve**. Journal of Symbolic Computation, Volume 122, 2024, 102255, ISSN 0747-7171. <https://doi.org/10.1016/j.jsc.2023.102255> - arXiv:2206.07000
- Javier Sendra-Arranz. **The Hessian correspondence of hypersurfaces of degree 3 and 4** (2023). [arXiv:2307.10415](https://arxiv.org/abs/2307.10415)
- Irem Portakal and Javier Sendra-Arranz. **Game Theory of Undirected Graphical Models**, Journal of Algebra, 2025, vol. 666, p. 574-606. <https://doi.org/10.1016/j.jalgebra.2024.12.004>, [arXiv:2402.13246](https://arxiv.org/abs/2402.13246)

Teaching

- Teaching assistance for [Introduction to combinatorial birational geometry](#) at Tübingen university. Winter semester 2023-2024
- Proseminar on algebraic plane curves at Tübingen university. Summer semester 2024
- Mathematics I Course 2024/2025 at CUNEF Universidad.
- Mathematics II Course 2024/2025 at CUNEF Universidad.

Talks and Posters

- **Gromov-Witten theory of elliptic curves**. Algebraic Geometry and Gromov-Witten Theory Seminar (Bonn Fall 2020+) - November 2020
- **Gromov-Witten theory of K3 surfaces**. Algebraic Geometry and Gromov-Witten Theory Seminar (Bonn Fall 2020+) - August 2021
- **Gromov-Witten theory of elliptic curves and K3 surfaces**. Admcycles: coding intersection theory - March 2022
- **Nash Conditional Independence Curve**. Seminar on Nonlinear Algebra - March 2022
- **Nash Conditional Independence Curve**. MEGA 2022 - June 20-24 2022
- **Nash Conditional Independence Curve**. Oberseminar Kombinatorische Algebraische Geometrie Tübingen - November 9, 2022
- **Hessian Correspondence of hypersurfaces of degree 3 and 4**. Pfaffians, Tensors, and Applications - November 28-30, 2022
- **Recovery of plane curves from branch points**. Seminario de Doctorando de Matemáticas UCM - December 13, 2022
- **Nash Conditional Independence Curve**. II Encuentro RSME-UMA - December 12-16, 2022
- **Hessian correspondence of cubic hypersurfaces**. Oberseminar Algebra and Combinatorics, Leipzig University, May 11, 2023
- **Recovery of plane curves from branch points and Real Plane Hurwitz Numbers**. CGTA 2023, June 19-23, 2023
- **Real Plane Hurwitz Numbers**. SIAM AG 2023, July 10-14, 2023

- **Hessian correspondence of hypersurfaces of degree 3 and 4.** Third Annual Meeting 2023 of SFB-TRR 195, September 25-28, 2023 (Poster)
- **Hessian correspondence of hypersurfaces of degree 3 and 4.** Oberseminar Kombinatorische Algebraische Geometrie Tübingen - November 25, 2023
- **Real plane Hurwitz numbers and recovery algorithm** Quantitative methods seminar at CUNEF University. March 7, 2024
- **Hessian correspondence of hypersurfaces of degree 3 and 4.** MEGA 2024 Leipzig. July 29th - August 2nd, 2024 (Poster)
- **Algebraic geometry meets game theory: Spohn CI varieties.** RSME 7th Congress of Young researchers, Bilbao, January 13th-17th 2025.

Attendance to Conferences and Workshops

- Leipzig Lectures on Theta, MPI MiS Leipzig - March 15 - 17, 2022
- A day on K3 surfaces, MPI MiS Leipzig - May 06, 2022
- North German Algebraic Geometry Seminar, Leibniz Universität Hannover - Friday May 13, 2022.
- MEGA 2022, Krakow - June 20-24 2022
- Pfaffians, Tensors, and Applications, MPI MiS Leipzig - November 28-30, 2022
- II Encuentro RSME-UMA, Ronda - December 12-16, 2022
- North German Algebraic Geometry Seminar, Humboldt-Universität zu Berlin, February 9-10, 2023
- Regional Workshop in Algebraic Geometry, University of Jena- March 29-31, 2023
- Solving hard polynomial systems, MPI MiS Leipzig, April 03 - 04, 2023
- CGTA 2023, Kefermarkt, June 19 - 23, 2023
- GAeL XXX, Warwick, July 3-7, 2023
- SIAM AG 2023, Eindhoven, July 10-14, 2023
- Third Annual Meeting 2023 of SFB-TRR 195, September 25-28, 2023
- A Syzygy day, October 11, 2023
- Chow Lectures, 2023, October 16-18, 2023
- Winter Workshop on Algebraic Geometry, Pavia, February 26-28, 2024

Organization

- Geometric Invariant Theory Reading Group. MPI MiS Leipzig. June 2022. Organizers: Javier Sendra-Arranz.
- Reading Group on Hilbert Schemes, MPI MiS Leipzig, March 2023. Organizers: Javier Sendra-Arranz.
- Reading Group on Algebraic Stacks. Tübingen University. January 2024-August 2024. Organizers: Clemens Nollau, Victoria Schleis and Javier Sendra-Arranz.
- Parallel session **Combinatorial Algebra and Geometry** at RSME's 7th Congress of Young researchers, Bilbao, January 13th-17th 2025.

Technical skills

- Python, SageMath, Julia, Macaulay2, MATLAB, Maple.

Other

- **Languages:**
 - English : C1 (Cambridge Advanced Exam)
 - Spanish: Native